ABSTRACT

OPTIMATION IN SAMPLE PREPARATION AND VALIDATION OF HPLC METHOD FOR DETERMINATION 1,3-DIMETHYLOL-5,5-DIMETHYL HYDANTOIN IN CREAM PRODUCT

Nurul maghfiroh

An High performance Liquid Chromatography (HPLC) method has been validated for determination of 1,3-dimethylol-5,5-dimethyl hydantoin (DMDM hydantoin) as preservative in cream product. The condition of HPLC used ODS column (particle size 5µm , i.d. 4.6 mm x 150 mm) with flow rate 1 mL / minute, and detected by Diode Array Detector (λ= 220 nm). The proposed method showed good separation, generating symmetrical peaks with resolution of 1.8. Correlation coefficient of 1,3-dimethylol-5,5-dimethyl hydantoin was 0.999 while relative process standard deviation of the function (Vxo) were 0.0467 %. The average recovery of DMDM hydantoin was 99.85 ± 1.8, and the precision of DMDM hydantoin was 0.56 %. The HPLC method is suitable for the analysis of DMDM hydantoin in sunscreen cream products.

Keywords: HPLC, DMDM hydantoin, Validation Method, Sunscreen Cream, Cosmetics